

REMARKS

In view of the foregoing amendments and following remarks responsive to the Final Office Action of March 15, 2006, Applicants respectfully request favorable reconsideration of this application.

The Office maintained all of the rejections asserted in the previous Office Action and added detailed responses to Applicant's arguments traversing these rejections contained in the Response of January 5, 2006.

All claims, claims 1-23, stand rejected under 35 U.S.C §103(a) as unpatentable over Blackmer in view of Kuhn.

The Present Invention

The present invention is a method and apparatus for teaching a speech recognition system or a text-to-speech system the proper pronunciations of letters or letter groups within particular character strings, such as words or names (hereinafter strings). Specifically, the particular pronunciation of a letter or letter group (hereinafter letter group) in any given character string can depend on many different factors, including the particular language, the particular word within which it appears, the particular usage of that word (e.g., noun or verb), the particular speaker, etc. The present invention involves a scheme by which a user can enter a character string using a graphical user interface (hereinafter GUI) and then teach the system (e.g., the software) how to pronounce various letter groups in the string. More particularly, the user selects a particular letter group and the software GUI presents the user with a plurality of words containing that letter group. The user can then select the word in the list in which the pronunciation of that letter group most closely matches the correct or desired pronunciation of that letter group in the string. The system also provides similar GUI for allowing the user to change syllable breaks and/or accent within the string.

The Blackmer Reference

Blackmer does not concern a person teaching software the pronunciation of letter groups or words. Rather, Blackmer pertains to software for teaching a person the correct pronunciation of words in a given language. In the latest Office Action, the Office essentially conceded that it cited Blackmer essentially merely for its general teaching of "a user interface for the exchange of pronunciation information" Office Action, page 4. last paragraph.

The Kuhn Reference

Kuhn discloses a computer program for teaching software the pronunciation of letter groups or words. However, the process is very different than the process disclosed in the present application. Kuhn's process is completely automated and involves no human interaction, which is a cornerstone of the present invention. There are no lists of words having different possible pronunciations of a character string.

Discussion

The Office's response to Applicant's arguments have been very helpful in developing Applicant's understand of the Office's position with respect to the various prior art rejections based on the combination of Blackmer and Kuhn. Specifically, the Office has essentially indicated that the present application discloses an invention that patentably distinguishes over the proposed combination of Blackmer and Kuhn, but disputes that the claims sufficiently recite those distinctions. Specifically, page 6 of the Office Action states, for example, "Examiner guides applicant's to further define in the claims the steps of updating the pronunciation model in detail, to overcome the combination of Blackmer in view of Kuhn". See also, page 7, second paragraph, page 8, lines 8-10 ("Examiner recommends amending the claim language of claim 9 to

overcome the Blackmer in view of Kuhn combination (as an example, to include claim language "wherein the user alters the previous syllable break")"and, page 8, lines 13-15 ("examiner notes that amending the claim language of claim 10 to claim an altering step associated with the accents would overcome the Blackmer in view of Kuhn reference").

In short, throughout the Response to Arguments section of the Final Office Action, the Office describes several situations in which the claim language allegedly reads on features disclosed in Blackmer and/or Kuhn that are actually very different than the feature of the present invention that Applicant is attempting to claim.

While Applicant disagrees with the Office's interpretation of the claims and/or references in this regard (i.e., Applicant does not agree that the various claim recitations referred to by the Office actually read on the features of the references asserted by the Office), Applicant has amended the independent claims along the lines suggested by the Office to recite that the pronunciation model is updated. Specifically, Applicant has added an introductory paragraph to claim 1 reciting "storing pronunciation data for a plurality of strings of characters to be used by a computing system for pronouncing the strings of characters" and amended the last paragraph of claim 1 to now recite "updating the pronunciation data corresponding to the particular string of characters in accordance with a pronunciation of the selected one or more characters in the sample selected by the user".

Claim 1 clearly distinguishes over the proposed combination of Blackmer and Kuhn. Specifically, claim 1 recites "allowing the user to select a set of one or more characters in a particular one of the strings of characters" and "retrieving from a database accessible by the computer a plurality of samples of words or parts representing different possible pronunciations of the selected character set and displaying the retrieved sample". The Office refers to column 19, lines 1-34 of Blackmer as teaching these two steps. Column 19, lines 1-34, describe how to navigate through various GUIs of a lesson on the difference in pronunciation between

the letters "p" and "b". It mentions that icons 644 and 646 lead to lessons on pronouncing "p" and "b", respectively. However, it does not describe the lessons. Even looking further down column 19, it merely discloses that the computer shows a plurality of words to the trainee that will help him or her understand the correct pronunciation of those letters (see Fig. 6C) and then plays a recording of those words being pronounced.

In the Response to Arguments section, the Office asserted that this claim language reads on Blackmer's feature of allowing the user to choose which sound to pronounce "p" or "b". This is not true, particularly given the new claim language referring to a "character set". It seems that the Office was interpreting this claim language as reading on the user selecting two (or more) different sets of characters (e.g., "p" or "b") and then retrieving two different word lists (one with words containing the letter "p" and another containing words with the letter "b").

Applicant disagrees with this interpretation of the former claim language, but nevertheless has amended the claim language to more clearly recite that the "selected" portion of the character string is one portion and not two different portions (which obviously would have different pronunciations, since they are different portions of the word). Specifically, it appears that the Office was interpreting the claim language that recited that the selected portion was "one or more characters" as reading on one or more portions of the word, whereas the intent of the language was simply that the one portion might comprise any number of characters (including one). The new language referring to a character set should alleviate this issue.

With respect to the next two steps of the claim of "allowing the user to select one of the displayed samples" and "updating the pronunciation data corresponding to the particular string of characters in accordance with a pronunciation of the selected character set in the sample selected by the user", the Office asserted that Kuhn

"teaches incorporating the pronunciation aspect into existing systems (abstract, col. 5 lines 10-31)".

As previously, noted both the Office and Applicant appear to be in agreement that Kuhn teaches a very different pronunciation training technique than that of the present invention. The dispute is whether the claim adequately recites those distinctions. While Applicant believes that the former language of claim 1 did adequately recite this distinction, it has nonetheless amended the claim language to further alleviate this issue. Specifically, rather than simply reciting storing the pronunciation data, it now recites "updating the pronunciation data corresponding to the particular string of characters in accordance with a pronunciation of the selected character set in the sample selected by the user". Kuhn does not teach this because the claim language recites (and always did recite) that the updated data is in accordance with the pronunciation "in the sample selected by the user". In Kuhn, there is no user input. It is a completely different technique that is fully automated, whereas a cornerstone of the present invention is the human interaction.

The other two independent claims 15 and 23 distinguish over the prior art of record for the same basic reasons. Specifically, claim 15 has been amended to contain essentially identical language to the language of claim 1 discussed above. Claim 23 has been amended to include similar language also.

The Dependent Claims Add Further Distinguishing Limitations

The dependent claims contain even further distinguishing features. For instance, claim 2 adds "generating a pronunciation of the character string using the pronunciation represented by the sample selected by the user as the pronunciation for the selected character set, and audibly outputting the generated pronunciation". The Office refers to Blackmer, col. 19, lines 28-39 as disclosing this. This portion of the Blackmer specification has been discussed above in connection with claim 1 and need not be

repeated here. However, in view of the discussion of Blackmer in connection with claim 1, Blackmer cannot meet this limitation since there is no pronunciation that is "selected by the user".

Claim 4 adds the step of "allowing the user to select a second of the displayed samples and storing second pronunciation data comprising the string of characters with the selected character set being assigned a pronunciation represented by the second sample selected by the user". This is a similar step to the above-discussed step in claim 1. This claim just adds the feature of allowing the user to select a second, alternate pronunciation of the word/character string. It distinguishes over the prior art for all of the same reasons as discussed above in connection with similar step of claim 1.

Claim 5 depends from claim 4 and adds the step of, during a text-to-speech process of generating audible output of a text file containing a string of characters, selecting one of the first or second pronunciation data. The Office asserted that this is found in Blackmer, col. 19, lines 28-39, which were discussed above in connection with claim 1. Since Blackmer does not discuss how the computer selects pronunciation of the words, it cannot possibly disclose this feature.

Claim 6 depends from claim 5 and further adds the limitation of "associating the first and second pronunciation data with first and second objects, respectively, and selecting one of the first and second objects, and during the step of selecting one of the first and second pronunciation data comprises selecting the pronunciation data associated with the selected object". This claim builds on the feature recited in claims 4 and 5 where a letter group in a single word may have a different pronunciation depending on context (i.e., the object). Claims 7 and 8 continue to build on this concept. Claim 7 recites that the particular pronunciation selected by the software is selected based on the pronunciation of the particular user as determined during a speech recognition process. Claim 8 is very similar to claim 6 except depending from

claim 7. The Office asserted that all of this is found in Blackmer, col. 9, line 36 - col. 10, line 45. However, as noted above in the discussion of claim 1, neither this nor any portion of Blackmer discloses anything about how the software determines the pronunciation. Blackmer only discusses how the software teaches the user how to pronounce words. Blackmer starts from the presumption that the software has this information and does not discuss where this information came from. Accordingly, it could not possibly teach any of the features recited in claims 6-8, which concern how the system learns the correct pronunciation.

Claim 9 pertains to the feature discussed on page 8, line 15-18 of the specification of allowing the user to alter the syllable breakdown of a word from the default breakdown provided by the computer. The Office asserted that this is taught in column 22, lines 20-25 of Blackmer. However, that portion of the specification merely notes that the plurality of words shown in the GUI represented by Fig. 9C have "a like number of syllables, and, furthermore, the same syllable in each of the words is stressed". This is utterly irrelevant to what is claimed in claim 9.

Claim 10 recites "allowing the user to identify a part of the character string to associate with an accent, and wherein the step of storing said first pronunciation data comprises storing data representing the identified accent". Claim 10 recites the feature disclosed on page 8, line 19 through page 9, line 6 of the specification wherein the user can change the syllabic accentuation in the word as desired. The Office asserted that this is disclosed in Blackmer in column 22, lines 18-31 (the same portion referred to in connection with claim 9 discussed immediately above). However, as noted above in connection with claim 9, this portion of Blackmer has nothing to do with teaching the computer how to pronounce the word, but instead relates to the computer teaching the user how to pronounce the word.

The Office suggested that Applicant overcome the rejections of claims 9 and 10 by amending the language to include language such as "wherein the user alters the

previous syllable break" or the like. Claims 9 and 10 depend from claim 1 and recite the details of the last step of claim 1. Accordingly, they have been amended to be consistent with the new language of claim 1 and also incorporate by reference the limitations of amended claim 1. Accordingly, these claims have essentially been amended as the Office suggested by means of their incorporation of claim 1.

Claims 16, 17, 18, 19, 20 and 21 depend directly or indirectly from claim 15 and contain limitations similar to those discussed above in connection with dependent claims 2, 3, 4, 5, 6, and 7, respectively. Hence, claims 16, 17, 18, 19, 20 and 21 further distinguish over the prior art for the reasons discussed with respect to claims 2, 3, 4, 5, 6, and 7.

Conclusion

Applicant has amended some of the dependent claims as needed to preserve consistency with the amended language of the independent claims and to correct clerical or typographical errors as needed.

In view of the foregoing amendments and remarks, this application is now in condition for allowance. Applicant respectfully requests the Office to issue a Notice of Allowance at the earliest possible date. The Examiner is invited to contact Applicant's undersigned counsel by telephone call in order to further the prosecution of this case in any way.

Respectfully submitted,

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